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Plants Growing in Trees.—A long list might be made of the plants that domesticate themselves in trees. The elms of New Haven, Connecticut, furnish some interesting examples : currant bushes bearing fruit occur in many places, as on Hillhouse Avenue and the College grounds. A matrimony-vine (*Lycium vulgare*), flourishes in one of the huge trees in front of the Scientific School. I have seen gooseberry bushes in similar situations. Grass often figures as an air-plant, and a hollow in a trunk, some fifteen feet from the ground, is filled with a beautiful growth of ferns. I refrain from giving the specific locality for fear the progressive aldermen may cut the tree down.

Brick Church, N. J.

HENRY BALDWIN.

Botanical Notes.

The Distribution of Ferns in the United States. In a paper upon this subject in the *Proceedings of the American Philosophical Society* (Feb. 2, 1883, p. 610), Mr. George E. Davenport says :

So far as now known, New York, Michigan, Florida, Vermont and California, in the order named, have the greatest number of species of ferns within their respective limits.

In the first, second and fourth of these States, the number has, in all probability, reached, or very nearly reached, its maximum, while in the third and fifth it is likely to be largely increased, and those States, from their favorable situations, climate, and comparatively extensive, unexplored territory, will undoubtedly lead all other States in the future, Arizona and Texas alone being at all likely to compete with them for the highest place.

If, however, we distribute our ferns according to the number of square miles of territory which each of the five first-named States contains, then Vermont will lead the others, her ratio being as 1 to every $226\frac{2}{3}$ square miles, that for New York as 1 to $81\frac{1}{4}$, Michigan 1 to $1,191\frac{1}{2}$, Florida, 1 to $1,289$, and California 1 to $4,295\frac{1}{2}$ square miles of territory.

Taking the extremes of the territorial limits, excluding the District of Columbia, which has 1 species to each $2\frac{1}{2}$ miles of territory, Rhode Island gives us 1 species for each $38\frac{1}{4}$, and Delaware 1 to 75, as compared with Pennsylvania's 1 to $109\frac{1}{4}$, Colorado's 1 to 4,200 and Texas's 1 to $7,878\frac{2}{3}$, square miles.

If we take an average of the fern-flora for the different geographical sections of the United States, on the basis of the present list, New England gives us an average of 40 species for each State, the Middle Atlantic States 40, the South Atlantic 27, the Gulf States 27, the Central States 25, the Pacific States 23, and the Territories an average of 19.

The returns from most of the Territories are altogether too meagre at present to permit of any comparisons, and those already made will necessarily undergo considerable modification as the gaps in the lists for other States fill up.

But, while no absolutely reliable comparisons can be made, nor the precise limits of each species be determined from the present incomplete tables, we may ascertain from them with a tolerable degree of